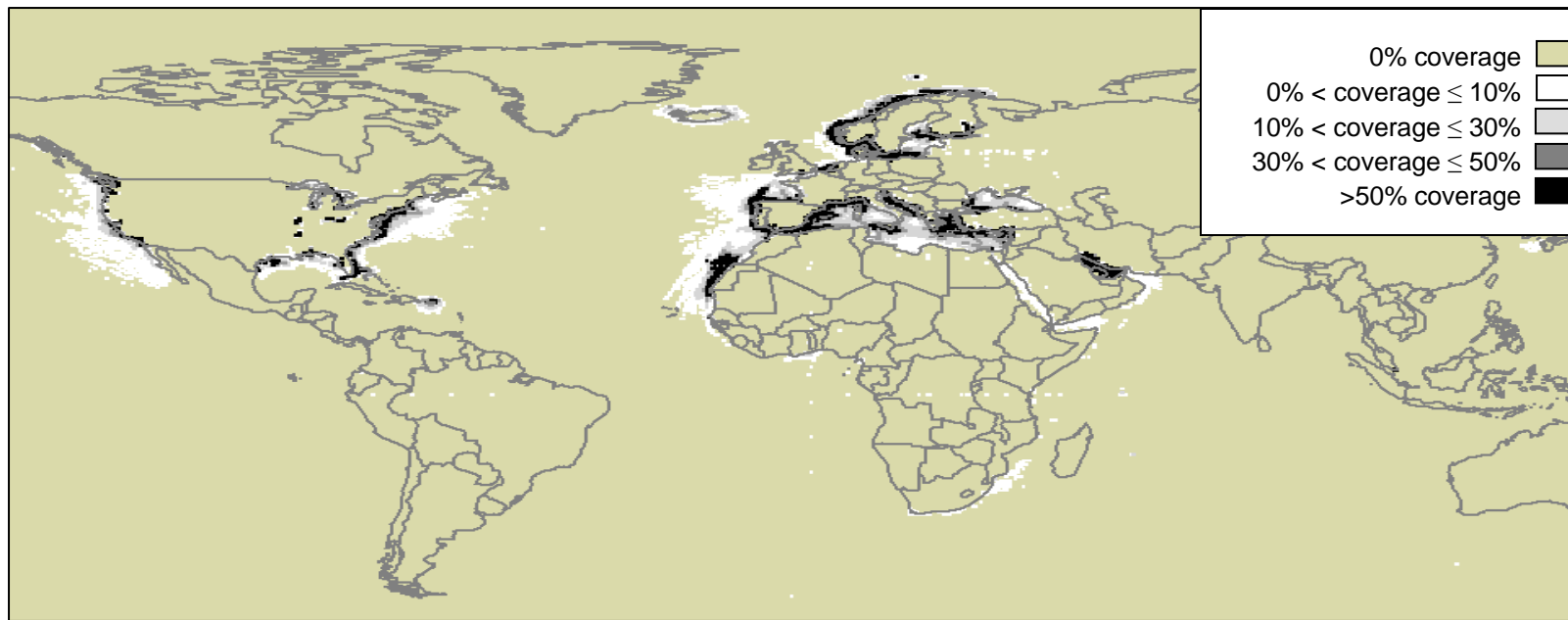# *Maritime Security and Safety Information System*

October 29, 2007

CDR Ric Callesen
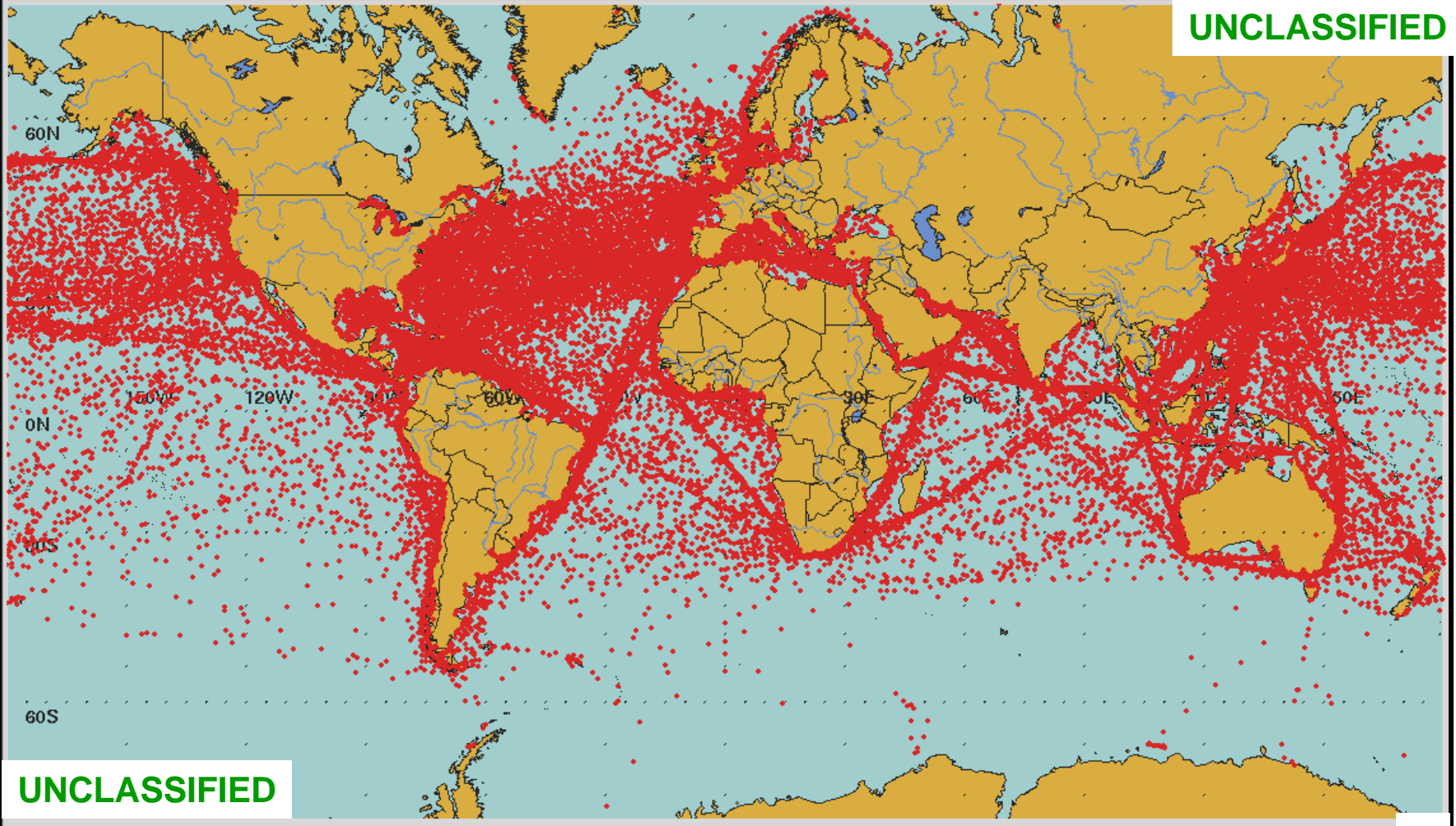*Director, TMFC*
CNE-C6F

Topics

- ✓ **Challenge**
- ✓ **Guiding Principles**
- ✓ **Direction**
- ✓ **Idea**
- ✓ **Big Idea**
- ✓ **MSSIS**
- ✓ **MSSIS Africa**
- ✓ **RMAC**
- ✓ **MSSIS Progression**
- ✓ **MSSIS in the National Effort**

The Challenge

3

Guiding Principles for MDA

- *Regional problems require regional solutions*
- *Interagency teamwork - Not just navies and traditional partners*
- *Be Transparent - Share information widely*
- *Keep it simple, keep it low cost*
- *Keep it UNCLASSIFIED - Needless classification weakens the network*
- *Open Architecture – The Tools are Out There*
- *Network Based - Leverage the Internet*
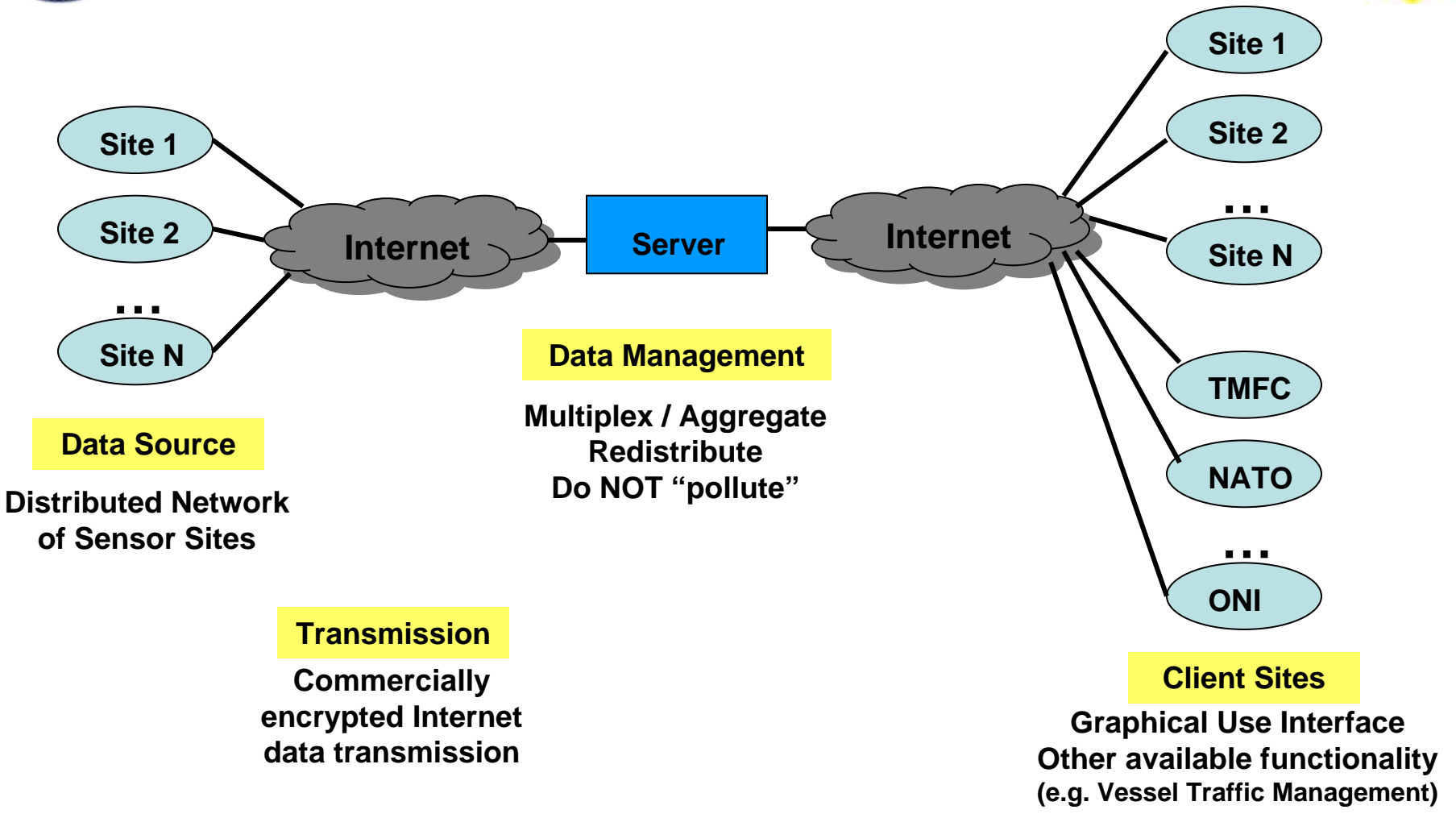- *Provide the software to sort MSA data*

The Direction

- **Connect our Enduring and Emerging Partners together**
  - **Level the playing field**
  - **Keep it unclassified and Open Source and keep it Freely shared**
  - **No Bi-Lats**
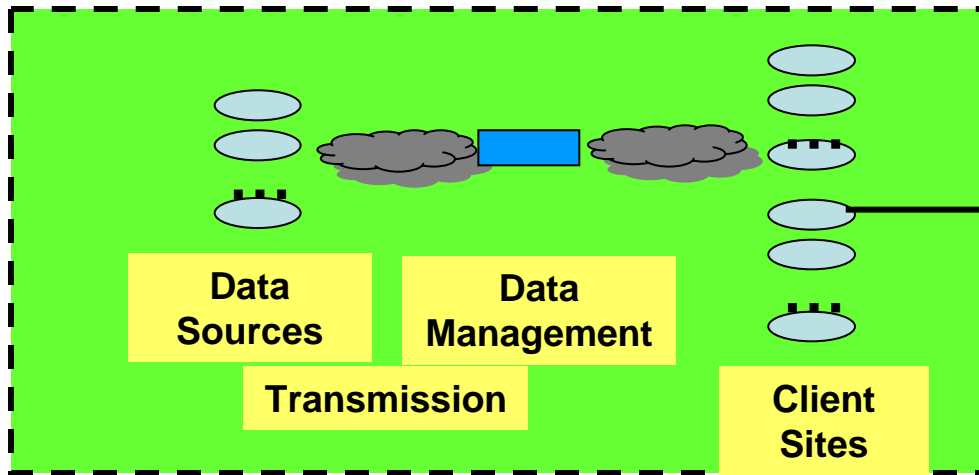- **Support all National MDA efforts**

The Idea ~ July 2005

Site 1

Site 2

. . .

Site N

Internet

Server

Internet

Site 1

Site 2

. . .

Site N

TMFC

NATO

. . .

ONI

Data Source

Distributed Network
of Sensor Sites

Data Management

Multiplex / Aggregate
Redistribute
Do NOT "pollute"

Transmission

Commercially
encrypted Internet
data transmission

Client Sites

Graphical Use Interface
Other available functionality
(e.g. Vessel Traffic Management)

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Big Idea ~ July 2005

The Green Box

What's done "OUTSIDE"

The Data Sharing Framework is the Clients' Business

Data Sources

Data Management

Transmission

Client Sites

Other Data

Analysis

Filter

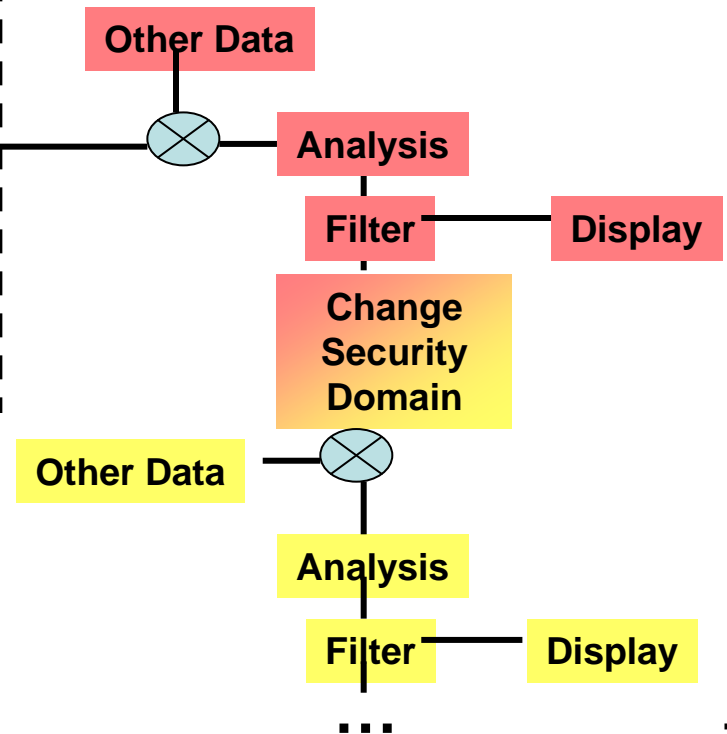Display

Change Security Domain

Other Data

Analysis

Filter

Display

...

PRIMARY ATTRIBUTES

- UNCLASSIFIED Data
- Freely SHARED Data (e.g. AIS)
- INTERNET Data Path
- Non-military Data Management

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# *Maritime Safety and Security Information System (MSSIS)*

- **Genesis: US Department of Transportation (DoT)**
  - **Network for US Coast Guard with data viewer (TV-32)**
- **Simple, unclassified, freely shared, open architecture**
- **Uses Internet to share data**
  - **Well-defined international data format (ITU-R M.1371-1)**
- ***Authorized* users access through commercial security**
  - **Navies, Coast Guards, agencies, ministries, Border Police, port authorities**
  - **Password protected with secure socket layer (SSL) encryption**

VHF antenna → AIS receiver → RS-232 → Laptop / TV-32 viewer ← SSL → **Internet** ↔ MSSIS server
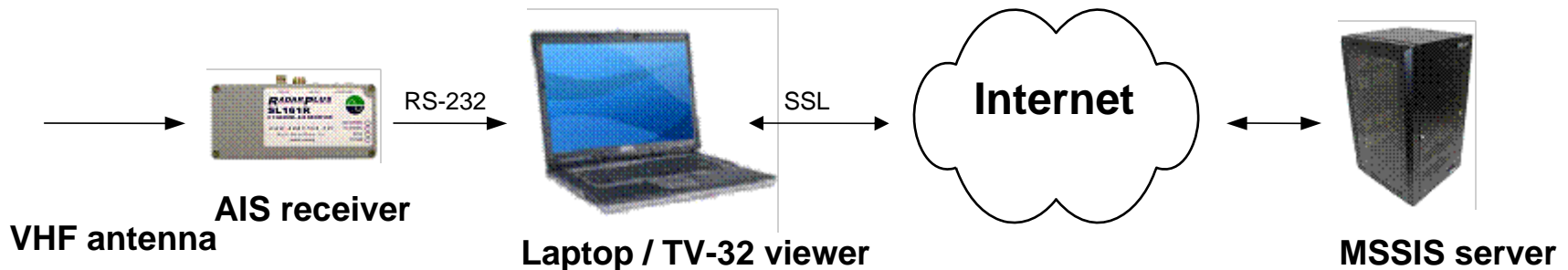
MSSIS Africa - 1206

➢ **Obtained $2.6M in FY07 1206 funding for AIS installations in <u>15 nations</u> in Africa to participate.**

➢ **Applied for $28M in FY08 1206 funding to increase Maritime Security Capability Enhancement (MSCE)**

  - **<u>11 African nations</u>**

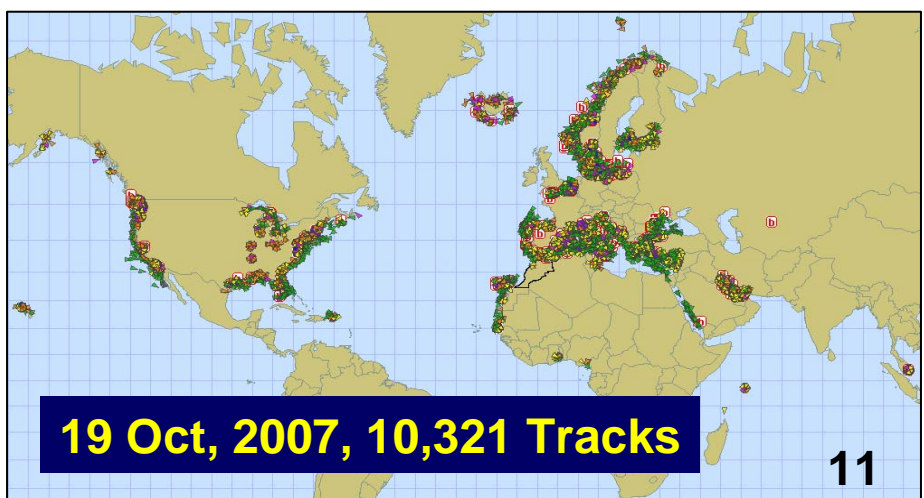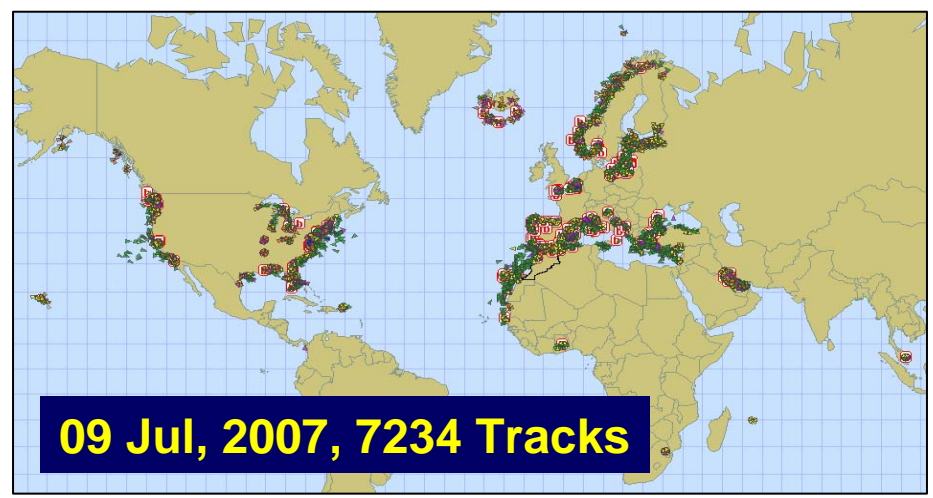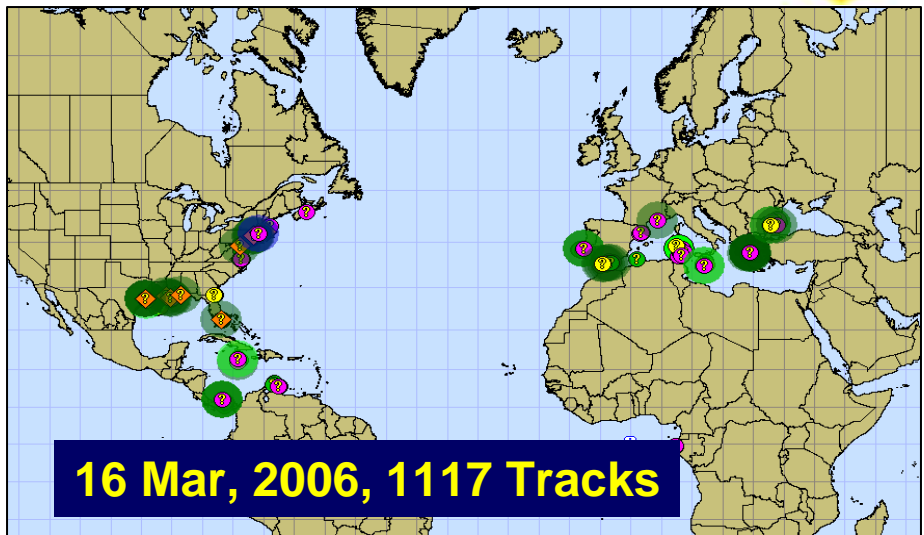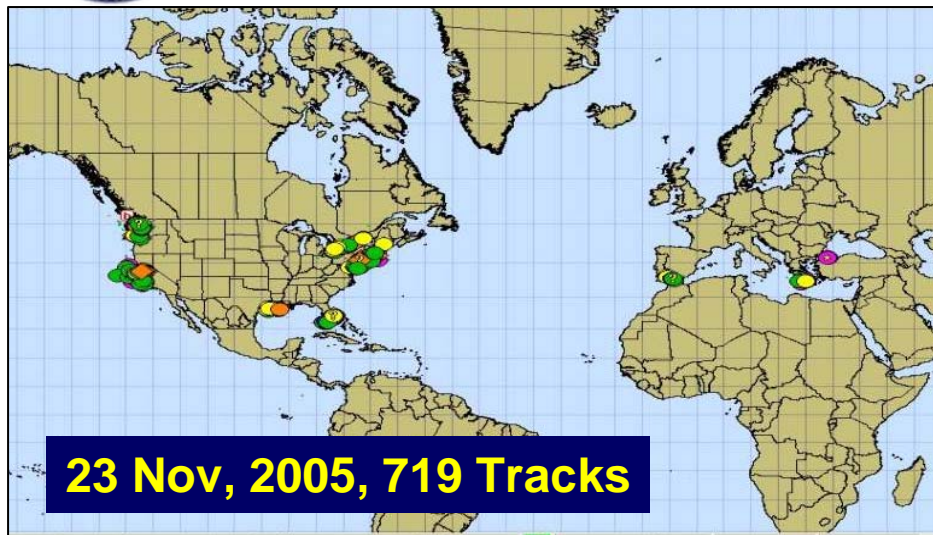 - **MSCE is integrated AIS, Radar, Camera with OP center display and VHF communications capability**

Regional Maritime Awareness Capability (RMAC) Joint Capability Technology Demonstration (JCTD)

- **History**
  - Directed by EUCOM. Initiated July 2006 – Concluding Sep 2008
- **Synchronization with CNE MDA efforts**
  - Improve Maritime Security and Safety
  - Help to define technology requirements and maritime awareness capabilities for integrating AIS, Radar, and Video into maritime awareness process
- **Current Status and Schedule**
  - **Sao Tome and Principe**: Coast Guard Ops Center executing daily maintenance/trouble-shooting SOPs
    - Installation completed – Nov 07; IOC for Operations Training in mid-Feb 08
  - **Nigeria**: Nigerian OPR in flux; Ops Center equipment ready to be installed.
    - Joint CONOPS – Oct 07; Lagos Install – Dec 07
- **Issues and Prognosis**
  - Technology solution not optimized for Africa/Third World partners/infrastructure
  - JCTD and TSC mission/timelines/success criteria are not good fit
  - Capacity/capability will be demonstrated in Sao Tome; Nigeria will remain problematic.
  - Without US funding to keep capability going long enough (2-3 years) to build budget for country's self-sustainment, capability will not be sustained in either country
  - RMAC will not represent an off-the-shelf solution for future emerging partners.
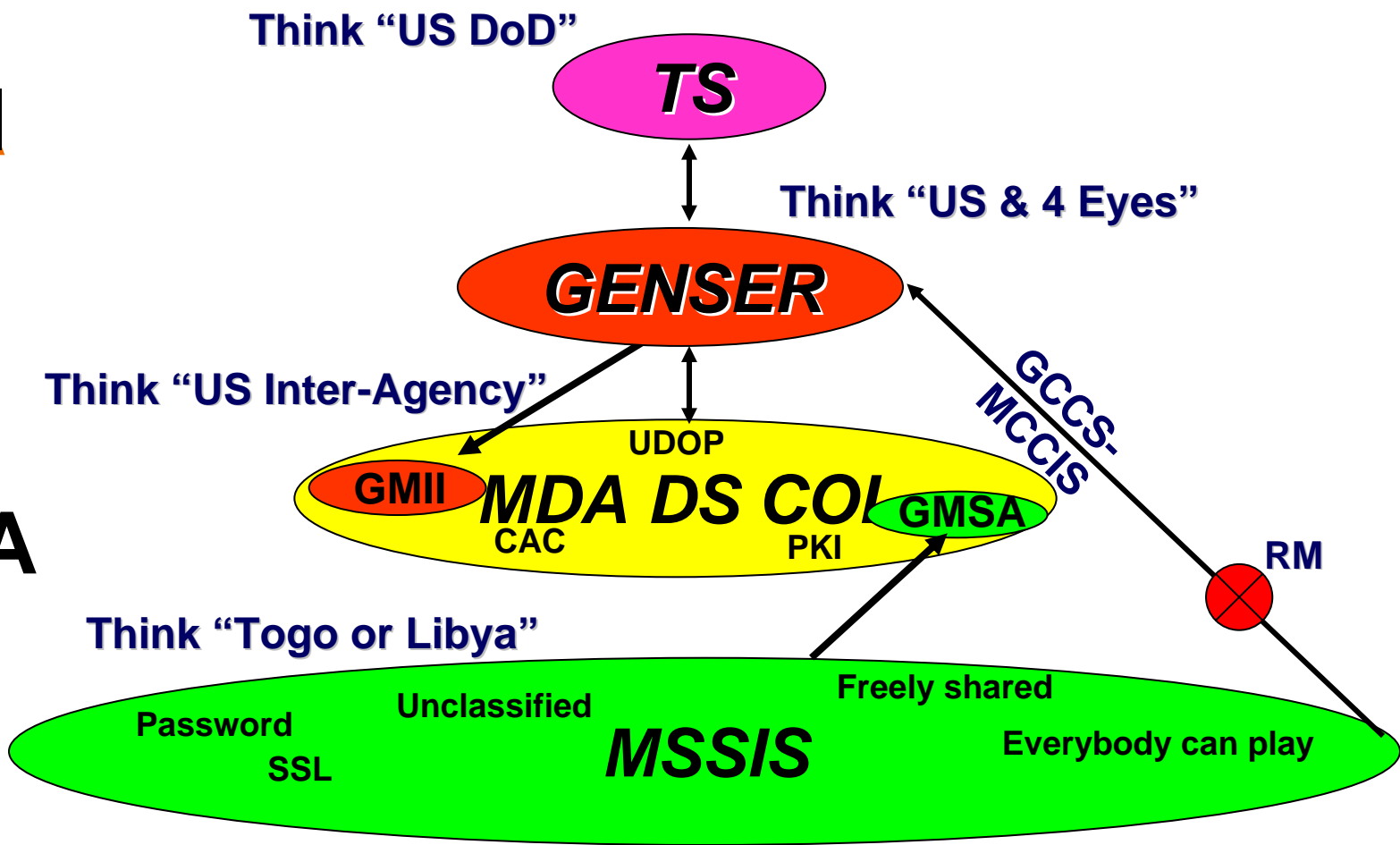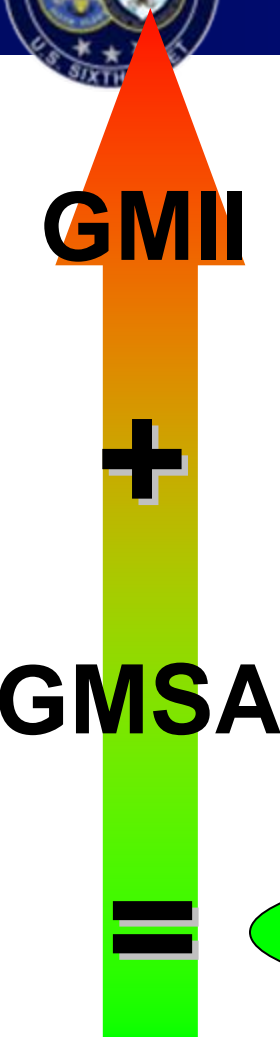
Progression of MSSIS

23 Nov, 2005, 719 Tracks

16 Mar, 2006, 1117 Tracks

09 Jul, 2007, 7234 Tracks

19 Oct, 2007, 10,321 Tracks

Impediments to Success

- ➢ Data sharing agreements require interagency support
- ➢ Distrust of the United States
- ➢ Insufficient international regulations
- ➢ Non-compliance with international regulations
- ➢ Inadequate enforcement of international regulations
- ➢ Lack of cooperation among maritime states
- ➢ Commercial resistance - mistrust of competitors
- ➢ Paucity of sensors

Supporting The Nat'l Effort

GMII

+

GMSA

=

MDA

Think "US DoD"

TS

Think "US & 4 Eyes"

GENSER

Think "US Inter-Agency"

UDOP

GMII **MDA DS COL** **GMSA**

CAC PKI

GCCS-MCCIS

RM

Think "Togo or Libya"

Freely shared

Unclassified

Password

SSL

MSSIS

Everybody can play

Complex Shared Challenges

How can we make our networks stronger than theirs?

MSSIS Phase Two

FASTC2AP and BRITE

- **Fast C2AP** is a DARPA-sponsored program demonstrating the application of agent-based technologies to operational information management requirements in support of Maritime Domain Awareness. Fast C2AP was designed to be used by the watch floor operators. DARPA will install Fast C2AP at the Second Fleet's new Maritime Headquarters with Maritime Operations Center.

- **Baseline for Rapid Iterative Transformational Experimentation (BRITE)** is a NATO ACT sponsored program is an experimentation framework which allows for the rapid implementation of new ideas and capabilities to support experimentation. BRITE has been developed as part of the TIDE (Technology for Information, Decision and Execution superiority) initiative and is intended to rapidly improve the IT capabilities of the NATO Alliance by reusing existing systems/components and by steering current and future projects towards greater openness and cooperation in a common framework. .

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Comments